SEQUENCE LISTING

```
<110> Vickers, Timothy
       Koo, Seongjoon
       Bennett, C. Frank
Crooke, Stanley T.
       Dean, Nicholas, M.
       Baker, Brenda F.
<120> Efficient Reduction of Target RNA's by Single- and
       Double-Stranded Oligomeric Compounds
<130> ISIS0001-100 (CORE00027US)
<150>
      US 60/411,780
<151>
      2002-09-18
<160> 1
<170> PatentIn version 3.2
<210>
      1
<211>
      20
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
<222>
      (1)...(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)..(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 1
                                                                         20
agaggagete agegtegaet
<210>
       2
<211>
      20
<212>
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)...(6)
      2'-O-methoxyethyl substituted bases
<223>
<220>
```

Page 1

<221> misc feature

```
<222>
       (15)..(20)
<223>
       2'-O-methoxyethyl substituted bases
<400> 2
                                                                        20
ggctgaggtt gcaactctga
<210>
       3
<211>
       20
<212>
       DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
       misc_feature
<221>
<222>
       (1)..(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
       misc feature
<221>
<222>
       (15)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400> 3
                                                                        20
ccaggcagga gcaactcctt
<210>
       4
<211>
       20
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)..(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
       misc feature
<221>
<222>
      (15)..(20)
<223>
       2'-O-methoxyethyl substituted bases
<400> 4
                                                                        20
ttgaatagca cattggttgg
<210>
       5
<211>
       20
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
```

```
<220>
<221>
      misc_feature
<222>
      (1)..(6)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221> misc feature
<222>
      (15)^{-}. (20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 5
                                                                        20
gcccactggc tgccaagagg
       6
<210>
       20
<211>
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)...(6)
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc feature
<222>
       (15)..(20)
       2'-O-methoxyethyl substituted bases
<223>
<400> 6
                                                                        20
tctctcctca ccagcaccgt
<210>
       7
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)..(6)
      2'-O-methoxyethyl substituted bases
<223>
<220>
      misc_feature
<221>
       (15)^{-}. (20)
<222>
       2'-O-methoxyethyl substituted bases
<223>
<400> 7
                                                                        20
aaaggtctgg agctggtagg
```

.

```
<210>
      8
      20
<211>
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)..(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)..(20)
       2'-O-methoxyethyl substituted bases
<223>
<400> 8
                                                                       20
gcgtgtccac ctctaggacc
<210>
       9
<211>
       20
<212>
      DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)...(6)
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
<222>
      (15)..(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 9
ccagtgccag gtggacctgg
                                                                       20
<210>
      10
<211>
       20
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221> misc feature
<222> (1)..(6)
```

. **

```
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 10
                                                                       20
ccagtattac tgcacacgtc
<210>
       11
<211>
       20
       DNA
<212>
      artificial sequence
<213>
<220>
      oligonucleotide
<223>
<220>
<221> misc_feature
      (1)...(6)
<222>
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)..(20)
       2'-O-methoxyethyl substituted bases
<223>
<400> 11
                                                                        20
cctctggctt cgtcagaatc
<210> 12
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
<222>
       (1)...(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221> misc feature
 <222>
       (15)..(20)
<223> 2'-O-methoxyethyl substituted bases
<400> 12
                                                                        20
ggtggccttc agcaggagct
<210>
       13
. <211>
        20
 <212> DNA
```

```
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc feature
      (1)..(6)
2'-0-methoxyethyl substituted bases
<222>
<223>
<220>
<221> misc feature
<222>
      (15)...(20)
<223> 2'-O-methoxyethyl substituted bases
<400> 13
                                                                        20
catacaggac acgaagctcc
<210> 14
<211> 20
<212>
      DNA
      artificial sequence
<213>
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(6)
      2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
      (15)...(20)
<222>
<223> 2'-0-methoxyethyl substituted bases
<400> 14
                                                                        20
catcetttag acaettgage
<210> 15
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(6)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221> misc_feature
<222>
      (15)..(20)
```

```
<223> 2'-O-methoxyethyl substituted bases
<400> 15
                                                                       20
gctcctggcc cgacagaggt
<210> 16
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
      misc_feature
      (1)..(6)
2'-O-methoxyethyl substituted bases
<222>
<223>
<220>
<221> misc feature
<222>
      (15)...(20)
<223> 2'-O-methoxyethyl substituted bases
<400> 16
                                                                       20
gctaccacag tgatgatgac
<210> 17
<211> 20
      DNA
<212>
<213>
      artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)..(6)
      2'-O-methoxyethyl substituted bases
<223>
<220>
<221> misc_feature
<222>
       (15)..(20)
       2'-O-methoxyethyl substituted bases
<223>
<400> 17
                                                                      20
ttgtgtgttc ggtttcatgg
<210>
       18
<211>
       20
<212>
       DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
```

```
<220>
      misc_feature
<221>
<222>
      (1)...(6)
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc feature
<222>
      (15)..(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 18
                                                                      20
ggaggcgtgg cttgtgtgtt
<210> 19
<211> 20
<212>
      DNA
<213>
      artificial sequence
<220>
      oligonucleotide
<223>
<220>
<221>
      misc_feature
<222>
       (1)..(6)
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
<222>
       (15)..(20)
       2'-O-methoxyethyl substituted bases
<223>
<400> 19
                                                                      20
cctgtcccgg gataggttca
<210>
       20
<211>
       20
<212>
       DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
<222>
       (1)...(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
       misc_feature
<221>
       (15)...(20)
<222>
       2'-O-methoxyethyl substituted bases
<223>
<400> 20
                                                                       20
cgaggaagag gccctgtccc
```

Page 8

.....

```
<210>
      21
<211>
      20
<212> DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)..(6)
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
<222>
      (15)..(20)
<223>
      2'-O-methoxyethyl substituted bases
<400> 21
tccactctgt tcagtgtggc
                                                                       20
<210> 22
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)...(6)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
       (15)...(20)
<222>
<223>
       2'-O-methoxyethyl substituted bases
<400> 22
                                                                       20
tctgactgag gacaatgccc
      23
<210>
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(6)
      2'-O-methoxyethyl substituted bases
```

```
<220>
<221>
      misc_feature
      (15)...(20)
<222>
<223> 2'-O-methoxyethyl substituted bases
<400> 23
                                                                     20
taggtgtgca ggtaccatgg
<210>
      24
      20
<211>
<212>
      DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
      (1)..(6)
<222>
      2'-O-methoxyethyl substituted bases
<223>
<220>
<221> misc feature
<222>
      (15)..(20)
<223> 2'-O-methoxyethyl substituted bases
<400> 24
                                                                     20
cctctcatca ggctagactt
<210> 25
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)..(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc feature
<221>
<222>
       (15)...(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 25
                                                                      20
ccagttgtat gtcctcatgg
<210> 26
       20
<211>
<212> DNA
<213> artificial sequence
```

. . . .

. -

```
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
        (1)...(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(20)
<223>
        2'-O-methoxyethyl substituted bases
<400> 26
gggcctcagc atacccaata
                                                                        20
<210>
       27
<211>
       20
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc feature
<222>
       (1)...(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400>
atgctacaca tgtctatgga
                                                                        20
<210>
       28
<211>
       20
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)..(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)..(20)
<223>
       2'-O-methoxyethyl substituted bases
```

...

•

```
<400> 28
                                                                      20
gcccaagctg gcatccgtca
<210> 29
<211>
      20
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)..(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
      (15)...(20)
<223> 2'-O-methoxyethyl substituted bases
<400> 29
agtgcccaag ctggcatccg
                                                                      20
<210>
       30
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
      oligonucleotide
<223>
<220>
<221> misc_feature
<222>
       (1)..(6)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400> 30
gctccgtgag gccagagacc
                                                                      20
<210>
      31
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
```

```
<220>
<221>
       misc_feature
<222>
       (1)..(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400> 31
caggcactct cctgcagtgt
                                                                       20
<210>
       32
<211>
      20
<212>
      DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(20)
<223> 2'-O-methoxyethyl substituted bases
<400> 32
gaaaggcagg ttggccaatg
                                                                       20
<210>
       33
<211>
       20
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)..(20)
<223>
       2'-O-methoxyethyl substituted bases
<400>
      33
ggtaatctct gaacctgtga
                                                                       20
```

```
<210>
      34
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
      oligonucleotide
<223>
<220>
<221> misc_feature
<222>
      (1)...(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
      (15)...(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 34
                                                                     20
gtccagacat gaccgctgag
<210> 35
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
<222>
      (1)...(6)
      2'-O-methoxyethyl substituted bases
<223>
<220>
      misc_feature
<221>
<222>
      (15)...(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 35
                                                                     20
ctggagctgc aatagtgcaa
<210> 36
<211> 20
<212> DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)..(6)
      2'-O-methoxyethyl substituted bases
<223>
```

. .

. .

```
<220>
<221>
      misc_feature
<222>
      (15)...(20)
      2'-O-methoxyethyl substituted bases
<223>
<400> 36
                                                                      20
tacacataca cacacaca
<210>
       37
       20
<211>
      DNA
<212>
      artificial sequence
<213>
<220>
<223>
      oligonucleotide
<220>
<221> misc_feature
<222>
      (1)...(6)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
       (15)...(20)
<222>
       2'-O-methoxyethyl substituted bases
<223>
<400> 37
                                                                      20
gctgaggtgg gaggatcact
<210>
       38
<211>
       20
<212>
       DNA
<213>
      artificial sequence
<220>
      oligonucleotide
<223>
<220>
<221>
      misc feature
<222>
      (1)...(6)
      2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
<222>
       (15)...(20)
       2'-O-methoxyethyl substituted bases
<223>
<400> 38
                                                                      20
ggtgtggtgt tgtgagccta
<210>
       39
       20
<211>
<212>
      DNA
<213>
      artificial sequence
```

.

```
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)..(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400> 39
ctaacacaaa ggaagtctgg
                                                                       20
<210>
       40
<211>
       20
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(6)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400>
       40
                                                                       20
cagtgcccaa gctggcatcc
<210>
       41
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
       oligonucleotide
<223>
<220>
<221>
      misc_feature
<222>
       (1)..(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
       (15)...(18)
<222>
<223>
       2'-O-methoxyethyl substituted bases
```

```
<400> 41
cgagaggcgg acgggacc
                                                                        18
       42
<210>
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221> misc_feature
<222>
       (1)..(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)^{-}. (18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 42
cgggcgcctc ggaagacc
                                                                       18
<210>
       43
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)..(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 43
tggctgcagc ttccgaga
                                                                       18
<210>
       44
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
```

<220>

```
<221> misc_feature
<222>
      (1)...(4)
<223>
      2'-O-methoxyethyl substituted bases
<220>
      misc_feature
<221>
      (15)..(18)
<222>
<223> 2'-O-methoxyethyl substituted bases
<400> 44
                                                                     18
cccgcggctg ctcacagg
<210>
      45
<211>
      18
<212>
      DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221> misc_feature
<222>
      (1)...(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(18)
       2'-O-methoxyethyl substituted bases
<223>
<400> 45
                                                                     18
caggagaagc cgaggaag
<210> 46
<211> 18
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
<222>
      (1)..(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc_feature
<221>
<222>
       (15)..(18)
<223> 2'-O-methoxyethyl substituted bases
<400> 46
                                                                     18
gggaggtgcc gccgccgc
<210> 47
```

Page 18

.

```
<211>
       18
<212>
        DNA
<213>
        artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)...(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 47
ccgggtccct ggatgtgc
                                                                         18
<210>
       48
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)..(4)
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
       misc feature
<222>
       (15)^{-}. (18)
<223>
       2'-O-methoxyethyl substituted bases
<400>
      48
cctccgaacg gctgcctc
                                                                        18
<210>
       49
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
       oligonucleotide
<223>
<220>
<221>
       misc_feature
<222>
       (1) . . (4)
       2'-O-methoxyethyl substituted bases
<223>
<220>
```

```
<221>
      misc_feature
<222>
       (15)..(18)
      2'-O-methoxyethyl substituted bases
<223>
<400> 49
                                                                      18
tctcctcagc agccagag
<210>
      50
<211>
       18
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
      misc_feature
<221>
<222>
      (1)..(4)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(18)
       2'-O-methoxyethyl substituted bases
<223>
<400> 50
                                                                     18
cgcttggctc tggaccgc
<210> 51
<211>
       18
<212>
      artificial sequence
<213>
<220>
      oligonucleotide
<223>
<220>
      misc_feature
<221>
<222>
       (1)..(4)
      2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
<222>
       (15)...(18)
<223>
      2'-O-methoxyethyl substituted bases
<400> 51
                                                                     18
tcttctgcag gatggaaa
<210>
       52
<211>
       18
<212>
       DNA
      artificial sequence
<213>
<220>
```

```
<223> oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1) . . (4)
      2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
       misc_feature
<222>
       (15)...(18)
       2'-O-methoxyethyl substituted bases
<223>
<400> 52
ggataaatat aggtcaag
                                                                     18
<210> 53
<211> 18
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
      misc_feature
<221>
<222>
      (1) . . (4)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
      (15)...(18)
<222>
<223> 2'-0-methoxyethyl substituted bases
<400> 53
tcaatattgt tcctgtat
                                                                     18
<210> 54
<211>
      18
<212> DNA
<213>
       artificial sequence
<220>
      oligonucleotide
<223>
<220>
<221>
      misc_feature
<222>
       (1)...(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)^{-}. (18)
       2'-O-methoxyethyl substituted bases
<223>
<400> 54
```

```
18
ttaaatttgg cggtgtca
<210>
       55
<211>
       18
<212>
       DNA
<213>
      artificial sequence
<220>
      oligonucleotide
<223>
<220>
      misc_feature
<221>
<222>
       (1)...(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc feature
<221>
       (15) ... (18)
<222>
       2'-O-methoxyethyl substituted bases
<223>
<400> 55
                                                                    18
caagatcttc acaaaagg
<210>
      56
<211>
       18
<212>
       DNA
       artificial sequence
<213>
<220>
       oligonucleotide
<223>
<220>
<221>
      misc_feature
<222>
       (1)..(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc_feature
<221>
<222>
       (15) ... (18)
       2'-O-methoxyethyl substituted bases
<223>
<400> 56
                                                                    18
attacaccag ttcgtccc
<210>
       57
<211>
       18
       DNA
<212>
<213>
      artificial sequence
<220>
       oligonucleotide
<223>
<220>
<221>
       misc_feature
```

the second of th

```
<222>
      (1)..(4)
<223> 2'-0-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
      (15)...(18)
      2'-O-methoxyethyl substituted bases
<223>
<400> 57
                                                                    18
tgtctctggt ccttactt
<210>
       58
<211>
       18
<212>
       DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
\langle 222 \rangle (1)...(4)
<223> 2'-0-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(18)
      2'-0-methoxyethyl substituted bases
<223>
<400> 58
                                                                    18
acatagcgcc tctgactg
<210> 59
<211> 18
<212> DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc feature
      (1)..(4)
<222>
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221> misc_feature
<222>
      (15)..(18)
<223> 2'-0-methoxyethyl substituted bases
<400> 59
                                                                   18
gaatatatct tcaccttt
<210> 60
<211> 18
```

Page 23

The second secon

```
<212> DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(18)
      2'-O-methoxyethyl substituted bases
<223>
<400> 60
ggaagaactc tactttga
                                                                  18
<210>
       61
<211>
       18
<212>
       DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 61
tgaagaatgt atttaccc
                                                                 18
<210>
       62
<211>
       18
<212>
       DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc feature
<222>
      (1)...(4)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221> misc feature
```

```
<222>
       (15)..(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 62
ggttggcttt gtctttat
                                                                   18
<210> 63
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)^{-}. (18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 63
tgctagcctc tggatttg
                                                                   18
<210> 64
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15) ... (18)
<223>
       2'-O-methoxyethyl substituted bases
<400>
      64
tctggatcag agtcagtg
                                                                  18
<210>
       65
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
```

```
<220>
<221>
       misc_feature
<222>
       (1)..(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)..(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 65
tattttcatg gtgtttta
                                                                   18
<210> 66
<211>
       18
<212>
      DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)..(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
       misc_feature
<221>
<222>
       (15)^{-}. (18)
<223>
      2'-O-methoxyethyl substituted bases
<400> 66
                                                                  18
tgttcctata actggtaa
<210>
       67
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
       misc_feature
<221>
<222>
       (1)...(4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc feature
<222>
       (15)^{-}. (18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 67
gtgtcaaaac cctgtgga
                                                                 18
```

the state of the second second

```
<210> 68
<211>
       18
<212>
       DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1) . . (4)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc_feature (15)..(18)
<221>
<222>
<223> 2'-O-methoxyethyl substituted bases
<400> 68
                                                                18
actggaataa aacgggaa
<210> 69
<211> 18
<212>
      DNA
<213>
       artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
       misc_feature
<222>
       2'-O-methoxyethyl substituted bases
<223>
<220>
<221>
      misc_feature
<222>
       (15) ... (18)
<223> 2'-O-methoxyethyl substituted bases
<400> 69
                                                                18
acttcagttg gtgacaga
<210>
      70
<211> 18
<212> DNA
<213>
      artificial sequence
<220>
      oligonucleotide
<223>
<220>
<221> misc_feature
<222>
      (1)..(4)
```

```
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221>
       misc feature
<222>
       (15)..(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 70
tagcaaaacc tttcggaa
                                                                  18
<210>
       71
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1) . . (4)
<223>
       2'-O-methoxyethyl substituted bases
<220>
<221>
       misc_feature
<222>
       (15)..(18)
<223>
       2'-O-methoxyethyl substituted bases
<400> 71
aattatttcc tttctgag
                                                                 18
<210>
      72
<211>
       18
<212>
       DNA
<213>
       artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1) ... (4)
       2'-O-methoxyethyl substituted bases
<223>
<220>
      misc feature
<221>
<222>
       (15)...(18)
<223>
      2'-O-methoxyethyl substituted bases
<400>
      72
                                                                 18
taaatagctg gagatggt
<210>
       73
<211>
       18
<212>
       DNA
```

```
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221>
      misc_feature
<222>
       (1)..(4)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221>
      misc_feature
<222>
       (15)...(18)
      2'-O-methoxyethyl substituted bases
<223>
<400> 73
cagattaata actgtagc
                                                                18
<210>
       74
<211>
       18
<212>
      DNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<220>
<221> misc_feature
<222>
      (1)...(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc_feature
<221>
<222>
       (15)..(18)
      2'-O-methoxyethyl substituted bases
<223>
<400> 74
                                                                18
ccccaataca gattcact
<210> 75
<211>
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
      misc_feature
<221>
<222>
      (1)..(4)
<223>
      2'-O-methoxyethyl substituted bases
<220>
<221> misc_feature
<222>
      (15)...(18)
```

•

```
<223> 2'-O-methoxyethyl substituted bases
<400> 75
                                                               18
attgttgctg tgtttctt
<210> 76
<211> 18
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221> misc_feature
<222>
      (1)..(4)
<223> 2'-O-methoxyethyl substituted bases
<220>
<221> misc_feature
<222>
      (15)^{-}. (18)
<223> 2'-O-methoxyethyl substituted bases
<400> 76
                                                               18
tgtttcaagc ccattctt
<210>
      77
<211>
       20
<212>
      DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<400> 77
                                                               20
aatcccagct actcgggagg
<210>
      78
      20
<211>
<212>
       DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<400> 78
                                                                20
aagcccttac ttgcatgtct
<210> 79
<211> 20
<212> DNA
      artificial sequence
<213>
<220>
<223> oligonucleotide
```

. 1 -

| <400> gcctgaa | 79 agca ctgaacagta | 20 |
|------------------|--------------------------|----|
| | | |
| <210> | 80 | |
| <211> | 20 | |
| <212> | DNA | |
| <213> | artificial sequence | |
| <220> | | |
| <223> | oligonucleotide | |
| <400> | 80 | |
| cgagcta | atta ccacagtatt | 20 |
| | | |
| <210> | 81 | |
| <211> | 20 | |
| | DNA | |
| <213> | artificial sequence | |
| <220> | | |
| <223> | oligonucleotide | |
| <400> | 81 | |
| agccaat | tgac accatacett | 20 |
| | | |
| <210> | 82 | |
| <211> | 21 | |
| <212> | DNA | |
| <213> | artificial sequence | |
| <220> | | |
| <223> | oligonucleotide | |
| <400> | 82 | |
| agcttg | gaag acgatcagca a | 21 |
| | | |
| <210> | 83 | |
| <211> | 28 | |
| <212> | DNA | |
| <213> | artificial sequence | |
| <220> | | |
| <223> | oligonucleotide | |
| <400> | 83 | |
| aaactg | ctga actattgtag gagagatg | 28 |
| | | |
| <210> | 84 | |
| <211> | 25 | |
| <212> | DNA | |
| <213> | artificial sequence | |
| <220> | | |
| <223> | oligonucleotide | |

and the second second

-

| <400> agatgco | 84 egtg tttgatgget eeage | 25 |
|---------------------------|--|----|
| | 85 22 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> catagaç | 85 gacc ccgttgccta aa | 22 |
| <210><211><211><212><213> | | |
| <220> <223> | oligonucleotide | |
| <400> tggctat | 86 tott ottgoacatt go | 22 |
| <210><211><211><212><213> | 87 23 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> ctcctg | 87 cctg ggaacaaccg gaa | 23 |
| <212> | 88 26 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> aatggc | 88 taag tgaagatgac aatcat | 26 |
| <210><211><211><212><213> | 89 25 DNA artificial sequence | |
| <220> <223> | oligonucleotide . | |

.

• •

```
<400> 89
tgcacatatc attacaccag ttcgt
                                                              25
<210> 90
<211>
      30
<212>
      DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<400> 90
ttgcagcaat tcactgtaaa gctggaaagg
                                                              30
<210> 91
<211>
      20
<212>
      DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
<400> 91
tgcaggtatt ggtgagtcgg
                                                              20
<210> 92
<211> 22
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<400> 92
tccaaggctc taggtggtca tt
                                                              22
<210> 93
<211>
       25
<212>
      DNA
<213>
      artificial sequence
<220>
<223>
      oligonucleotide
<400> 93
tcgcagcttg gatggccact tacct
                                                             25
<210>
      94
<211>
      19
<212>
      DNA
<213>
      artificial sequence
<220>
<223> oligonucleotide
```

| <400> gaaggt | 94 gaag gtcggagtg | 19 |
|---------------------------|--|----|
| <210><211><211><212><213> | 95 20 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> gaagat | 95 ggtg atgggatttc | 20 |
| <210><211><211><212><213> | 96 20 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> caagct | 96 tece gtteteagee | 20 |
| | 97 23 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> acaatc | 97 ccat tgacattgag gtt | 23 |
| <210><211><211><212><213> | 98 26 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> tttgct | 98 ctat ttttagcttg tgtgct | 26 |
| <210><211><212><212><213> | 99 30 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |

. . .

| <400> aaggag | 99 ggttc cccctactga gacagttcct | 30 |
|---------------------------|---|----|
| <210><211><211><212><213> | 100 25 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> tggcaa | 100 actaa cgtagaaact caaca | 25 |
| <210><211><211><212><213> | 101 23 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> tgccaa | 101 gagc atgaatacag aga | 23 |
| <210><211><211><212><213> | 102 37 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> acaact | 102 atag acttgctcat tgttcagact gattgcc | 37 |
| <210><211><211><212><213> | 103 23 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> tgtgat | 103 tgaa ccactteetg tea | 23 |
| <210><211><211><212><213> | 104 27 DNA artificial sequence | |
| <220> | oligopusleotide | |

| <400> ggagt | 104 ggtgt tattttcagt aggtgaa | 27 |
|---------------------------|---|----|
| <210><211><211><212><213> | 105 22 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> tccaac | 105 etcgg gacgtggcta ca | 22 |
| <210><211><211><212><213> | 106 19 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> gcaggo | 106 cggga ctatcagga | 19 |
| <210><211><211><212><213> | | |
| <220> <223> | oligonucleotide | |
| <400> agtttg | 107 ccga ccagacette t | 21 |
| <210><211><211><212><213> | 108 24 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> tccact | 108 geet ceatgatgea agee | 24 |
| <210><211><211><212><213> | 109 19 DNA artificial sequence | |
| <220> <223> | oligonucleotide | |

```
<400> 109
                                                            19
cgagaggcgg acgggaccg
<210> 110
      21
<211>
<212>
      DNA
      artificial sequence
<213>
<220>
<223>
      oligonucleotide
<400> 110
                                                            21
cgagaggcgg acgggaccgt t
<210> 111
<211>
      21
<212> DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<400> 111
                                                           21
ttgctctccg cctgccctgg c
<210> 112
<211>
       20
<212> RNA
<213> artificial sequence
<220>
<223>
      oligonucleotide
<400> 112
                                                          20
uuugucucug guccuuacuu
<210> 113
<211>
       20
<212>
       DNA
<213> artificial sequence
<220>
<223> oligonucleotide
<220>
<221>
      misc_feature
<222>
      (1)...(5)
<223> 2'-O-methoxyethyl substituted bases
<220>
      misc_feature
<221>
<222>
      (16)...(20)
<223> 2'-O-methoxyethyl substituted bases
```

Page 37

```
<400> 113
ctgctagcct ctggatttga
                                                            20
<210>
       114
<211>
        20
<212>
       DNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (1)...(5)
       2'-O-methoxyethyl substitutions
<223>
<220>
<221>
       misc_feature
<222>
       (16)...(20)
<223>
       2'-O-methoxyethyl substitutions
<400> 114
tccagcactt tctttccgg
                                                          20
<210> 115
<211>
      20
<212>
       RNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc_feature
<222>
       (18)...(20)
<223>
       2'-O-methoxyethyl substitutions
<400> 115
uuugucucug guccuuacuu
                                                         20
<210>
       116
<211>
       20
<212>
       RNA
<213>
       artificial sequence
<220>
<223>
       oligonucleotide
<220>
<221>
       misc feature
<222>
       (18)...(20)
<223>
       2'-O-methoxyethyl substituted bases
<400>
      116
```

| uuuaucgcuu cucguugcuu | | 20 |
|----------------------------------|---|----|
| <210><211><211><212><213> | RNA/DNA | |
| <220> <223> | oligonucleotide | |
| <400> ccaauc | 117 caga ggcuagaagt t | 21 |
| | 118 21 RNA/DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> ttgguu | 118 aggu cuccgaucuu c | 21 |
| <210><211><211><212><213> | 21 RNA/DNA | |
| <220> <223> | oligonucleotide | |
| | 119 aggc cuucgaucgu c | 21 |
| | | |
| <220> <223> | oligonucleotide | |
| <400> cuaaac | 120 cgga ugccagaagt t | 21 |
| <210> <211> <212> <213> | 121 21 RNA/DNA artificial sequence | |
| <220> <223> | oligonucleotide | |
| <400> | 121 | |

Page 39